INFLUENCE OF GENDER-BASED VIOLENCE DURING PREGNANCY ON CHILD'S BIRTH WEIGHT IN NIGERIA

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INTRODUCTION

Child's birth weight has become a global issue not only because is an indicator of infant's susceptibility to the risk of childhood diseases, growth and survival but also a reflection of the past and present health status of mothers (Lu et al., 2003; Strobino, 2006). According to World Health Organisation (WHO), low birth weight infants are infants weighing less than 2.5kilograms at birth while those weighing 2.5kilograms or greater have average or higher birth weight (WHO, 2004). Globally, around 23 million low births infants are born every year with more than 95% of these low birth weight infants occurring in developing countries (Roudbari, Yaghmaei and Soheili, 2007; WHO, 2004). Majority of infant's deaths result from their weight or size at birth (WHO, 2004). For instance, Podja and Kelly (2000) found that about 17 million infants born with low birth weights in developing countries have little chances of reaching full growth potential even if they (infants) were be able to survive.

In Nigeria, birth weight or size at birth remains a challenging child's health issue. The country's under-five mortality rate of 156.9 per 1000 live births is among the highest rate in the world (NPC and ICF Macro, 2009). Low birth weight is one of the factors driving high infants and child deaths in Africa (Kayode *et al*., 2014). Estimates by WHO/UNICEF in 2008 showed that 14 percent of infants weighed below 2.5kilograms in Nigeria. Past estimates showed that 11.9 percent in 1990, 14.1 percent in 2004 and 11.7 percent in 2008 of infants weighed below 2.5kilograms. However, the proportion of low birth weight in Nigeria varies by geo-political zone and by socio-economic background of the mothers. Low birth weight ranges from 27.2 percent in the North West zone to 3.4 percent in the South West zone (National population Commission (NPC) [Nigeria] and ICF International, 2014).

Several methods have been adopted in developing countries to address the proportion of children with low birth weight. However, considerable efforts in Nigeria still remain a combating issue. Several studies have documented evidences on determinants of child's birth weight in terms of maternal socio-economic and demographic disparities (Okereke *et al*., 2004; Josh and Pai, 2005; Mukhtar and Lliyasu, 2007; Mmbando *et al*., 2008; Thakurs, 2011; Onyeka *et al*., 2011; Yilgwan, 2012; Aras, 2013; Kayode *et al*., 2014). Other studies also established that maternal cognitive factors such as maternal smoking (Zdravkorich, Genbacev and McMaster, 2005), iron supplementation (Basu and Dasgupta, 2011), maternal stature (Elshibly *et al*., 2008), maternal weight before and after pregnancy (Han, 2011; Ahmamdu *et al*., 2012), parity (Vaktskjold *et al.,* 2010), pregnancy interval (Conde-Agueo *et al.,* 2006), antenatal care

(Olowonyo *et al.*, 2006) are important predictors of child's birth weight. However, very little have been done to investigate birth weight outcomes in relation to gender-based violence during pregnancy in developing nations, particularly Nigeria. Neggers, Goldenberg and Cliver, (2004) and Kay, Mirembe, Bantebya and Ekstrom, (2006) asserted that injuries sustained by a woman during pregnancy are associated with low birth weight of newborns. Thus, this study examined the influence of gender-based violence during pregnancy on child's birth weight in Nigeria.

DATA AND METHODS

The study employed primary and secondary data. The secondary data was obtained from the 2013 Nigerian Demographic and Health Survey (NDHS). The 2013 NDHS was a multi-stage sample survey of 33,896 women aged 15-49 years. All the women in the survey were asked about the total number of children they had given birth to, which produced a total number of 119,386 children in the birth recode data. Thus, the two data sets (women individual recode and the birth recode) excluding the non-married, were merged and produced a weighted sample size of 2,337 ever married women who experienced violence during pregnancy and who had live births, in the past five years. Also, 30 In-depth Interviews (IDIs) were conducted with 15 female health workers and 15 women of childbearing age (15-49) who experienced violence during pregnancy and had at least a live birth.

RESULTS

The result reveals that only three percent of women had experienced violence during pregnancy. Forty-seven (47) percent of these women were aged 35 years and above while 64 percent have had their first birth below 20 years of age. Regional variations show that violence during pregnancy is highest among women in the Northern parts (58 percent) and among women who reside in the rural areas (62 percent). The relationship between gender-based violence during pregnancy and child's birth weight shows that there is a significant relationship between age at marriage of women and child's birth weight (χ^2 =33.15, $p<0.01$). The higher the age at marriage, the lower the low birth weights delivery. Also, there is an inverse significant relationship between age at first birth and child's birth weight (χ^2 =30.09, $p<0.01$). Low birth weights delivery decreased with increasing age at first birth. Region of respondents also has a significant relationship with child's birth weight (χ^2 =306.08, $p<0.01$). Also, there is a significant relationship between gender-based violence during pregnancy and child's birth weight (χ^2 =17.10, $p<0.05$). Women who were victims of violence during pregnancy had higher proportions of low birth weights children than non-victims of violence.

Using binary logistic regression to predict the likelihood of having low birth weight children (coded "1" if the mother reported having low birth children and "0", if otherwise). The results show that the odds of having a low birth weight child increases significantly among women who experienced violence during pregnancy ($p<0.05$). Women who were victims of violence during pregnancy were 2.30 times more likely to deliver low birth weight children than non-victims of violence (RC). While holding all explanatory variables constant in Model 2, the result showed a significant positive relationship between gender-based violence during pregnancy and child's birth weight. The likelihood of low birth weight delivery increased with 2.17 among women who experienced violence during a pregnancy than among their counterparts (RC). Also, regional disparities revealed that women from North West who had experienced violence during pregnancy were 2.87 times more likely to deliver low a birth weight child ($p<0.05$).

Consequently, women from south east and south west were 0.30 times and 0.31 times less likely to deliver low birth weight children than those in the North Central (RC).

Discussion

The findings revealed an increased likelihood of low birth weight incidences among women who experienced violence during pregnancy. This lends credence to the work of Kay *et al*., (2006) which found a significant association between violence, coupled with pregnancy and child's birth weight. The study also found a significant relationship with age at marriage and age at first birth. It was observed that low birth weights incidence increased with increasing age at marriage and increasing age at first birth. These findings corroborate that of Josh and Pai (2005) who established a correlation between age at marriage and birth weight, stating that early marriage often lead to teenage pregnancyat the period when the body is still in the process of biological growth. As a result of this, the woman is likely to deliver low birth weight baby. The study also found a significant relationship between region and child's birth weight. The study revealed that low birth weights were higher among women in the Northern part of the country.

This finding is consistent with that of Mukhtar and Lliyasu (2007) who reported a higher incidence of low birth weight in the Northern regions of Nigeria. Report from the qualitative data also revealed a strong correlation between gender-based violence during pregnancy and child's birth weight.

Conclusion

It was observed that incidence of low birth weights in Nigeria increased among victims of violence during pregnancy, particularly among women in the Northern parts. Thus, this study suggests that more awareness on the health and social implications of violence during pregnancy especially on the children must be promoted.